



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,309	06/16/2005	Jong-Hun Ha	0630-2359PUS1	2656
2252	7590	04/01/2009	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			HAMO, PATRICK	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			3746	
NOTIFICATION DATE		DELIVERY MODE		
04/01/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,309	<b>Applicant(s)</b> HA ET AL.
	<b>Examiner</b> PATRICK HAMO	<b>Art Unit</b> 3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 January 2009.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-34 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-34 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

### **DETAILED ACTION**

This action is in response to amendments filed on 7 January 2009.

#### ***Drawings***

The replacement drawing sheet of fig. 1 was received and accepted on 7 January 2009.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-8, 11-15, 18 and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohmart, U.S. Patent No. 2,629,544.

In regard to independent claim 1 and its dependent claim 6, Ohmart discloses a compressor comprising: a chamber consisting of a cylindrical body 26, 50 an upper cap 58 coupled at an upper portion of the body and a lower cap 46, 52 coupled at a lower portion of the body; an electric mechanism unit 24 positioned inside the chamber and generating rotational force; and a compression mechanism unit 22 for compressing and discharging fluid by the rotational force generated from the electric mechanism unit in

the chamber, wherein the body of the chamber includes an inner body 26 and an outer body 50 which are tightly attached to reduce noise and vibration generated in the chamber (col. 2, ll. 18-32); wherein the inner body and the outer body are mutually welded at point 54 where they meet the lower cap. The inner body, as being directly in contact with the source of vibration, will have a greater deformity than the outer body, which does not likewise deform hence reducing the noise and vibration transmitted outside the chamber. This will certainly produce at least some friction, as is a necessary consequence of any two bodies coming in moving contact with each other.

In regard to independent claim 7 and its dependent claim 8, Ohmart discloses a compressor comprising: a chamber consisting of a cylindrical body 26, 50, an upper cap 58 coupled at an upper portion of the body and a lower cap 46, 52 coupled at a lower portion of the body; an electric mechanism unit 24 positioned inside the chamber and generating rotational force; and a compression mechanism unit 22 for compressing and discharging fluid by the rotational force generated from the electric mechanism unit in the chamber, wherein the body of the chamber includes an inner body 26 and an outer body 50 which are tightly attached to reduce noise and vibration generated in the chamber through their mutual friction, and the inner body is fixed to the upper cap and to the lower cap through welding; wherein the inner body and the outer body are mutually welded at point 54 where they meet the lower cap. The inner body, as being directly in contact with the source of vibration, will have a greater deformity than the outer body, which does not likewise deform hence reducing the noise and vibration

discharged outside the chamber. This will certainly produce at least some friction, as is a necessary consequence of any two bodies coming in moving contact with each other.

In regard to independent claim 11 and its dependent claims 12-15 and 18, Ohmart discloses a chamber 28 for a compressor, comprising a multi-layer structure at least one portion, wherein plates of the multi-layer structure are tightly attached to each other in order to reduce noise and vibration by mutual friction; comprising a cylindrical body 26, 50, an upper cap 58 coupled to an upper portion of the body and a lower cap 46, 52 coupled to a lower portion of the body, wherein the body has a multi-layer structure; wherein the body has a double-layer structure; wherein the lower cap has a multi-layer structure; wherein the portions in the multi-layer structure are assembled by being attached to each other, at welding point 54. The inner body, as being directly in contact with the source of vibration, will have a greater deformity than the outer body, which does not likewise deform hence reducing the noise and vibration discharged outside the chamber. This will certainly produce at least some friction, as is a necessary consequence of any two bodies coming in moving contact with each other.

In regard to independent claim 30 and its dependent claims 31-33, Ohmart discloses a chamber for a compressor comprising: a cylindrical inner body 26 and a cylindrical outer body 50 which are tightly attached to reduce noise and vibration generated inside through mutual friction; an upper cap 58 coupled to an upper portion of the inner body; and a lower cap 46, 52 coupled to a lower portion of the inner body;

further comprising a support 54 coupled to the outer body and supporting the chamber; wherein the support is fixed at the outer body through welding; wherein the upper cap and the lower cap are fixed at the inner body through welding. The inner body, as being directly in contact with the source of vibration, will have a greater deformity than the outer body, which does not likewise deform hence reducing the noise and vibration discharged outside the chamber. This will certainly produce at least some friction, as is a necessary consequence of any two bodies coming in moving contact with each other.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmart, discussed above, in view of Lundin, U.S. Patent No. 3,687,224.

Ohmart discloses all of the limitations of independent claim 1, from which claims 2 and 3 depend, but fails to teach that a middle body is interposed between the inner body and the outer body or that the bodies are assembled in a manner of being press-fit to each other. However, Lundin teaches a muffler unit for use with a compressor which includes a three-layered body for sound dampening, including an inner 12 and outer 24

body with a porous material 90 interposed therebetween. It would have been obvious to one of ordinary skill in the art to have modified the chamber of Ohmart with the porous interposed layer of Lundin because the intermediate porous layer gives more robust sound absorbing qualities (column 2, lines 41-44). In regard to the limitation that the bodies are assembled in a manner of being press-fit, this limitation constitutes a product-by-process claim in which determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698 (Fed. Cir. 1985). In the present case, the product as claimed is substantially the same as that taught by the combination of Ohmart and Lundin, except that the references are not made by press-fitting.

Claims 4, 5, 9, 10, 16, 17 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmart, discussed above.

Claims 4, 5, 9, 10, 16, 17 and 34 each depend from one of the independent claims rejected by Ohmart under 35 U.S.C. 102(b) above. As such, Ohmart discloses all of the limitations in these claims except that: the inner body and the outer body are assembled as being mutually press-fit; the inner body and the outer body are assembled as being shrunken to each other; and that the outer body is formed shorter than the overall length of the inner body.

In regard to the limitations that the inner body and the outer body are assembled as being mutually press-fit and that the inner body and the outer body are assembled as being shrunken to each other, these limitations constitute product-by-process claims in which determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698 (Fed. Cir. 1985). In the present case, the product as claimed is substantially the same as that disclosed by Ohmart, except that Ohmart's is not made by press-fitting or shrink-fitting. In regard to the limitation that the outer body is formed shorter than the overall length of the inner body, it is the examiner's opinion that this would have been an obvious result of engineering design choice. The body of Ohmart for example, has a series of concave and convex portions, and if the balance of these is greater for the concave portions, then the outer body would be shorter than the inner body. If the inverse were true, then the inner body would be shorter than the outer body. Ohmart is silent to the dimensions of the concave and convex portions, but under an obviousness rejection, the specifics of Ohmart's compressor are of no consequence. It would have been obvious to one of ordinary skill in the art to have made a compressor that would have more concave portions, leading to a shorter outer body relative to the inner body.

Claims 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmart, discussed above, in view of Licentia, GB991996.

Ohmart discloses all of the limitations of independent claim 11, from which claims 19-25 directly or indirectly depend, but fails to disclose that one later and its adjacent layer are made of different materials; wherein one layer and its adjacent layer are made of materials with different thermal expansion coefficient; wherein the layer positioned at outer side of a compressor is made of material having higher thermal expansion coefficient than that of the layer positioned at an inner side of the compressor; wherein one layer and another layer attached thereto have different moduli of strain; wherein the layer positioned at an outer side of the compressor is made of material having higher modulus of strain than that of the layer positioned at an inner side of the compressor; wherein each layer constituting the multi-layer structure has different thickness; wherein the layer positioned at the inner side of the chamber is thicker than the layer positioned at the outer side of the chamber. However, Licentia teaches a casing for a motor compressor including two layers made of different materials (page 2, claim 6) (in which case they would have different thermal expansion coefficient and different moduli of strain), and two layers of different thickness (page 2, claim 5). It would have been obvious to one of ordinary skill in the art to have modified the chamber of Ohmart with the casing of Licentia in order to further reduce the radiation of noise (page 1, column 1, lines 22-26). In regard to the claimed limitations that the inner layer is thicker than the outer layer and that outer layer has a higher thermal expansion coefficient and modulus

of strain, it would have been an obvious matter of engineering design choice to one skilled in the art in the process of material selection.

Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmart, as discussed above, in view of Mitch, U.S. Patent No. 4,091,638.

Ohmart discloses all of the limitations of independent claim 11 from which claims 27-29 depend, but fails to teach a heat releasing unit provided at the outer layer, wherein the heat releasing unit is a metal plate being contact with the outer layer, and includes a plurality of fin plates. However, Mitch teaches a compressor with a casing including fins 90 extruded from a plate on the casing to promote cooling of the compressor. It would have been obvious to one of ordinary skill in the art to have modified the compressor of Ohmart with the heat releasing capabilities of Mitch's casing in order to better cool the compressor unit.

#### ***Response to Arguments***

Applicant's arguments filed 7 January 2009 have been fully considered but they are not persuasive. Applicant relies on the amended limitations added to each of the independent claims to overcome the art of Ohmart and the secondary references. However, as discussed in the rejection above, these limitations fail to distinguish over Ohmart. The inner body of Ohmart, as being directly in contact with the source of vibration, will have a greater deformity than the outer body, which does not likewise

deform hence reducing the noise and vibration discharged outside the chamber. This will certainly produce at least some friction, as is a necessary consequence of any two bodies coming in moving contact with each other. Therefore, the amended limitation fails to patentably distinguish over the art of record. The layers are tightly attached at the point they are welded to each other, and the attributes of the layers are not important to the claimed limitations, if by "attributes" the applicant means the deformity. It is reasonable to conclude that the inner body will deform more than the outer body as arranged, whether or not they are made of separate materials, as it is the resistance to deformation of an outer body that reduces noise and vibration transmission.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/  
Primary Examiner, Art Unit 3746

/Patrick Hamo/  
Patent Examiner, AU 3746